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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/840,920 | 04/25/2001 | Timothy Alderson | 017750-604 | 6529 |

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EXAMINER

JOHNSON, TIMOTHY M

ART UNIT

PAPER NUMBER

2625

DATE MAILED: 04/13/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,920

Applicant(s)

ALDERSON ET AL.

Examiner

Timothy M Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-43 and 45 is/are allowed.
- 6) ☒ Claim(s) 1,2,10,11 and 44 is/are rejected.
- 7) ☒ Claim(s) 3-9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Objections

1. Claims 3-9 are objected to because of the following informalities:

For claim 3, lines 8-9, replace "the the" with "the".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 and 44 are rejected under 35 U.S.C. § 102(b) as being anticipated by Butler, WO 97/01926.

For claim 1, a method of providing corrected values of gain and level coefficients of a set of correction coefficients for a scanning detector array, the scanning detector array comprising a plurality of detector channels is provided by Butler in at least the second full paragraph on page 16, where a focal plane array (FPA) is explicitly scanned, and scanning is further controlled for the array in at least the last full paragraph on page 5; channels being understood in light of the specification as single dimensions of the array and as taught by Butler in at least the last full paragraph on page 7 and the paragraph bridging pages 7-8, and also the abstract; and correcting values of gain and level (i.e. offset) is provided by Butler also in at least the abstract and the last full paragraph on page 1. Modifying first values of the gain and level coefficients using at least one frame of image data collected by the scanning detector array from out-of-

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focus multiple-temperature imagery in at least the paragraph bridging pages 13-14 and at least the first two full paragraphs on page 15. Determining updated values of the gain and level coefficients applied to scene data corresponding to focused scene imagery is also provided by Butler in at least the paragraph bridging pages 13-14 by continual adjustment as well as focused images, and the last full paragraph on page 14 with explicit reference to updating coefficients, and it is also understood that additionally, the out-of-focus image also depends on the focused image. Using a scene-based non-uniformity correction (SBNUC) routine applied to scene data is provided by Butler, since the detector array clearly has a non-uniform response based on the scene which is being imaged, which is problem in the art to be solved – see Butler in at least the second full paragraph on page 1 and the last full paragraph on page 1, so that the routine noted above for determining updated values uses SBNUC.

For claim 2, the method of claim 1, wherein the step of modifying first values of the gain and level coefficients comprises applying said SBNUC routine to the frame of image data collected from out-of-focus multiple temperature imagery is provided by Butler as noted above for claim 1, where Butler provides for a modification with respect to offset (i.e. level) values and corresponding gain values.

For claim 44, see the rejection of at least claim 1, and a processor unit coupled to the scanning detector array configured to perform as noted above for claim 1 is clearly provided by the apparatus coupled to the detector 100 in Fig. 1 of Butler.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler, WO 97/01926, as applied to claims above, in view of Knauth et al., 6,630,674.

For claims 10-11, the method of claim 1, further comprising: adjusting initial values of the level coefficients of the set of correction coefficients using an initial frame of image data collected by the scanning detector array from a predetermined source, said adjusting providing the first values of the level coefficients and the method of claim 10, wherein the predetermined source is a bland source having a substantially uniform spatial structure and a substantially uniform temperature is provided by Butler by using a reference using an opaque device in the paragraph bridging pages 13-14 for adjusting the level (i.e. offset) coefficients, which is therefore likely to be uniform in structure and temperature. Butler does not explicitly provide for a uniform source however. Knauth provides for a bland source having a substantially uniform spatial structure and a substantially uniform temperature as shown in at least Fig. 6, by a structurally uniform source 630 which emits uniform energy and therefore uniform temperature in the last full paragraph in c. 12. Butler can use the bland source of Knauth, since they are in the same field of endeavor of non-uniform correction of focal plane arrays. It would've been

obvious to one having ordinary skill in the art at the time the invention was made to use the bland source of Knauth with Butler, since a uniform source is desirable for finding and correcting the fixed pattern noise.

Allowable Subject Matter

6. Claims 12-43 and 45 are allowed.
7. Claims 3-9 would be allowable if rewritten or amended to overcome the claim objection(s) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Citation of Relevant Prior art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Quon et al., EP-0830013, and White et al., 5,721,427 – Documents cited in the IDS for providing for claims 1 and 12 together with U.S. 5,721,427. These references do not appear to provide for claims 1 and 44, since neither reference, where cited in the search report, provides for modifying the coefficients using out-of-focus multiple temperature imagery, nor does either reference provide for updating the gain and level coefficients using SBNUC applied to focused scene imagery, nor does either reference where cited provide for channels of the detector array. For at least these reasons, these references were not used in the rejection. As for independent claims 12 and 45, once again, neither reference, where cited, explicitly provides for channels of the detector array, or for generating a preliminary level correction factor, gain correction factor, gain-induced

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level correction factor based on the gain correction factor, nor for updating the existing values of the gain and level coefficients for each detector channel using the above values.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy M Johnson whose telephone number is 703-306-3096. The examiner can normally be reached on Monday – Friday from 5:30 to 2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta, can be reached on Monday – Friday from 9:30 to 5:00.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Timothy M. Johnson
Patent Examiner
Art Unit 2625
April 07, 2004


TIMOTHY M. JOHNSON
PRIMARY EXAMINER